Title (en)

Device to eliminate fixed echoes in an ultrasonic echograph.

Title (de)

Gerät zum Ausschliessen von Festechos für Ultraschallechographie.

Title (fr)

Dispositif d'élimination d'échos fixes pour échographe ultrasonore.

Publication

**EP 0298569 A1 19890111 (FR)**

Application

**EP 88201427 A 19880707**

Priority

FR 8709734 A 19870709

Abstract (en)

[origin: JPS6431081A] PURPOSE: To accurately measure the flow velocity of a slow blood flow, especially, a blood flow near a vein wall by providing at least one second filter which is shifted in phase from a first filter by a prescribed period. CONSTITUTION: A device is provided with a first filter 100 composed of M parallel lines (i) (i: 1,..., M) having delay time (i-1)T (T: cycle period of an echo graph) on one side, weighting means 101i for M lines (i) (the sum of coefficients ai impressed upon the lines is zero) on the other side, and an adder 102 for weighted lines (i). In addition, at least one second filter 200 which has the same structure as the filter 100 has and is shifted in phase from the filter 100 by (M-1)T is connected in parallel with the filter 100 and the pulse response [h2 (t)] of the filter 200 is linked to that [h1 (t)] of the filter 100 as expressed by h2 (t)=h1 [(M-1)T-t]. Therefore, the flow velocity of a slow blood flow can be measured.

Abstract (fr)

Dispositif d'élimination d'échos fixes. Dispositif d'élimination d'échos fixes pour échographe ultrasonore, comportant un filtre (100) composé, d'une part, de M lignes parallèles i (i=1,...,M) de retard respectif (i-1)T, T étant la période de récurrence de l'échographe, d'autre part, de moyens de pondération (101i) des M lignes i, la somme des coefficients (ai) affectés auxdites lignes étant nulle, et, enfin, d'un additionneur (102) des lignes i ainsi retardées et pondérées. Selon l'invention, audit filtre (100), appelé premier filtre, est associé en parallèle au moins un deuxième filtre (200) de même structure, conjugué du premier filtre (100) et déphasé de (M-1)T, la réponse impulsionnelle (h2(t)) du deuxième filtre étant reliée à la réponse impulsionnelle (h1(t)) du premier filtre par : h2(t) = h1((M-1)T-t) Application à la mesure et l'imagerie des vitesses d'écoulements sanguins par échographie ultrasonore.

IPC 1-7

G01S 15/52; H03H 15/00; H03H 17/06

IPC 8 full level

**A61B 8/14** (2006.01); **G01S 7/526** (2006.01); **G01S 15/52** (2006.01); **G01S 15/89** (2006.01); **H03H 15/00** (2006.01); **H03H 17/06** (2006.01)

CPC (source: EP US)

**G01S 15/52** (2013.01 - EP US); **H03H 15/00** (2013.01 - EP US); **H03H 17/06** (2013.01 - EP US)

Citation (search report)

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DOCDB simple family (application)

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